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<110> Salk Institute
Chory, Joanne
Cerdan, Pablo D.

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 Ser Ser Gly Ala Met Gln Thr Ser Gln Ser Lys Tyr Val Lys Val Trp
 545 550 555 560
 Glu Gly Asn Leu Ser Gly Gln Arg Gln Gly Gln Pro Val Leu Ile Thr
 565 570 575
 Arg Leu Glu Gly Tyr Arg Ser Ala Ser Ala Ser Asp Ser Leu Ala Ala
 580 585 590
 Asn Trp Pro Pro Thr Met Gln Ile Val Arg Leu Ile Ser Gln Asp His
 595 600 605
 Met Asn Asn Lys Gln Tyr Val Gly Lys Ala Asp Phe Leu Val Phe Arg
 610 615 620
 Ala Met Ser Gln His Gly Phe Leu Gly Gln Leu Gln Asp Lys Lys Leu
 625 630 635 640
 Cys Ala Val Ile Gln Leu Pro Ser Gln Thr Leu Leu Leu Ser Val Ser
 645 650 655
 Asp Lys Ala Cys Arg Leu Ile Gly Met Leu Phe Pro Gly Asp Met Val
 660 665 670
 Val Phe Lys Pro Gln Ile Pro Asn Gln Gln Gln Gln Gln Gln Gln
 675 680 685
 Leu His Gln Gln Gln Gln Gln Gln Gln Gln Ile Gln Gln Gln Gln
 690 695 700
 Gln Gln Gln His Leu Gln Gln Gln Gln Met Pro Gln Leu Gln Gln Gln
 705 710 715 720
 Gln Gln Gln His Gln Gln Gln Gln Gln Gln His Gln Leu Ser Gln
 725 730 735
 Leu Gln His His Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
 740 745 750
 Gln His Gln Leu Thr Gln Leu Gln His His His Gln Gln Gln Gln
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 Ala Ser Pro Leu Asn Gln Met Gln Gln Gln Thr Ser Pro Leu Asn Gln

770		775		780
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Pro Gln Gln Met Val Met Gly Gly Gln Ala Phe Ala Gln Ala Pro Gly				800
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Arg Ser Gln Gln Gly Gly Gly Gly Gly Gln Pro Asn Met Pro Gly Ala				815
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	835			

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<220>
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<220>
 <223> PCR Primer

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 <223> CO PCR Primer

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 <223> PCR Primer
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 <223> PCR Primer for UBQ10
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28

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 35 40 45
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 Tyr Ser Ala Phe Asp Val Gln Arg Ser Gly Trp Thr Lys Asp Thr Asp
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 Ser Glu Ala Ser Thr Cys Glu Gly Leu Ala Glu Ala Leu Lys Ile Leu
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 115 120 125
 Lys His Cys Ile Leu Val Ala Ala Ser Asn Pro Tyr Pro Leu Pro Thr
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 Ala Ala Asp Pro Ser Val Asp His Ala Lys Asn Pro His Phe Leu Val
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 225 230 235 240
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 Ala Pro Ala Val Thr Met Pro Gly Pro Thr Ser Asn Ala Asn Pro Ser
 260 265 270
 Gly Arg Gln Pro Val Val Gly Gly Ile Ser Thr Ala Thr Val Lys Val
 275 280 285
 Glu Pro Ala Thr Met Pro Pro Ile Val Ser Ala Pro Ala Phe Ser His
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 305 310 315 320
 Thr Ser Ser Pro Ser Leu Ile Ser Gln Glu Ala Asn Met Ala Asn Asp
 325 330 335
 Asn Val Gln Glu His Lys Pro Ile Ile Asn Pro Val Gln Gln Pro Val
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 Arg Pro Gly Gly His Gly Ser Leu Leu Asn Asn Leu Ser Gln Val Arg
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 Leu Met Asn Ser Thr Ser Leu Gly Gly Gly Ala Thr Ser Met Gly Leu
 370 375 380
 Pro Asn Ile Gly Ala Thr Pro Ile Gln Val His Met Ser Asn Met Ile
 385 390 395 400
 Ser Ser Gly Met Thr Ser Thr Pro Ser Val Ile Ser Ser Met Ser Gly
 405 410 415
 Pro Gly His Pro Ile Gly Thr Gln Gln Met Ile Gln Ser Thr Ala Leu
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 Ala Val Ser Ser Ser Leu Thr Asn Asn Gln Ser Ser Met Gly Met Gly
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690					695					700					
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Pro	Pro	Glu	Leu	Ala	Leu	Val	Val	Phe	His	Thr	His	Gly	Pro	Tyr	Ser
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Leu	Ser	Trp	Leu	Ser	Gly	Ile	Ser	Phe	Ser	Gly	Gly	Gly	Phe	Ser	Glu
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Cys	Ile	Leu	Val	Ala	Ala	Ser	Asn	Pro	Tyr	Pro	Leu	Pro	Thr	Pro	Val
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Ala	Gln	Cys	Ser	Val	Ser	Leu	Ser	Val	Ile	Ser	Pro	Lys	Gln	Leu	Pro
			165					170						175	
Thr	Leu	Lys	Ala	Ile	Tyr	His	Glu	Ala	Val	Val	Ala	Val	Glu	Ala	Phe
			180					185					190		
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 260 265 270
 Ala Gly Phe Trp His Ser Ala Leu Gln Gln Pro Ser Ser Ser Leu
 275 280 285
 Ile Ser Gln Glu Ala Asn Ile Ala Asn Asp Ser Val Gln Glu His Arg
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 Pro Ile Arg Ser Pro Val Gln His Pro Val Arg Pro Gly Arg His Gly
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 Gly Leu Leu Ser Asn Pro Ser Gln Phe Gln Pro Ile His Ser Thr Phe
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 Phe Gly Glu Ala Thr Thr Ser Met Gly Pro Pro Asn Ile Gly Ala Ile
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 385 390 395 400
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 405 410 415
 Gln Pro Asn Ser Met Ala Met Asn Arg Gln Ala Gly Ile Asn Pro Leu
 420 425 430
 Ser Ser Ala Met Asn Ala Pro Ile Gly Met His His Asn Ala Gln Gln
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 Pro Pro Pro Lys Tyr Val Lys Ile Trp Glu Gly Thr Leu Ser Gly Gln
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 Arg Gln Gly Arg Pro Val Phe Ile Ser Arg Leu Glu Gly Trp Ser Gly
 465 470 475 480
 Ile Val Ser Lys Thr Val Ala Ala Asp Trp Pro Glu Thr Met Gln Ile
 485 490 495
 Val Arg Leu Ile Ala Gln Glu His Met Asn Asn Lys Gln Tyr Val Trp
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 Lys Gly Arg Leu Ser Asn Ile Ser Asp Phe Lys Ser Ala Trp Phe Leu
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 Gln Thr Leu Pro Leu Ser Met Ser Asp Lys Ala Gly Arg Met Ile Gly
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 Asn Val Glu Phe Ser Leu Val Thr Tyr Asn Thr His Gly Cys Tyr Ser
 50 55 60
 Gly Ile Leu Val Gln Arg Thr Gly Trp Thr Arg Asp Pro Asp Val Phe
 65 70 75 80
 Leu Gln Trp Leu Glu Ser Ile Pro Phe Ser Gly Gly Gly Phe Asn Asp
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 Ala Ala Ile Ala Glu Gly Leu Ala Glu Ala Leu Met Met Phe Pro Pro
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 Cys Ile Leu Val Ala Ala Ser Asn Pro Tyr Pro Leu Gln Thr Pro Val
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 Tyr Val Pro Gln Leu Gln Ser Leu Glu Lys Thr Glu Ser Ile Asp Ser
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 225 230 235 240
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 Asn Gly Trp His Arg Ser Ser Pro Ile Trp Glu Gly Ser Leu Tyr Gly
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<211> 15075

<212> DNA

<213> O. Sartiva

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Ala	Lys	Asn	Pro	His	Phe	Leu	Val	Leu	Leu	Ser	Asp	Asn	Phe	Leu	Glu	
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Ala	Arg	Thr	Ala	Leu	Ser	Arg	Pro	Leu	Pro	Gly	Asn	Leu	Val	Thr	Asn	
225				230						235					240	
His	Pro	Ile	Thr	Lys	Met	Asp	Thr	Ala	Ala	Thr	Ser	Val	Pro	Val	Pro	
				245					250					255		
Thr	Ser	Asn	Gly	Asn	Pro	Ser	Val	Asn	Gly	Pro	Met	Leu	Thr	Arg	Gln	
			260					265					270			
Pro	Asn	Gly	Val	Val	Ala	Asn	Ile	Lys	Thr	Glu	Pro	Thr	Thr	Leu	Pro	
		275					280					285				
Pro	Met	Val	Ser	Ala	Pro	Ala	Phe	Ser	His	Val	Thr	Pro	Val	Ala	Asn	
		290				295					300					
Gly	Val	Ser	Gln	Gly	Leu	Ser	Ser	Val	Gln	Ser	Pro	Ser	Pro	Ser	Leu	
305					310					315					320	
Ile	Ser	Gln	Glu	Thr	Asn	Leu	Ala	Asn	Asp	Ser	Val	Gln	Glu	His	Lys	
			325						330					335		
Pro	Leu	Ile	Asn	Pro	Ile	Gln	Gln	Ser	Ile	Arg	Pro	Gly	Gly	Pro	Ala	
			340				345						350			
Asn	Val	Ser	Ile	Leu	Asn	Asn	Leu	Ser	Gln	His	Arg	Ser	Val	Ala	Thr	
		355					360					365				
Ile	Ile	Ser	Gly	Gly	Met	Pro	Gly	Ile	Pro	Met	Ser	Gly	Thr	Gly	Gln	
		370				375					380					
Ser	Ile	Gly	Ser	Gln	Gln	Val	Val	Gln	Asn	Thr	Ala	Phe	Gly	Ser	Asn	
385					390					395					400	
Thr	Pro	Ile	Thr	Gly	Asn	Ser	Asn	Ile	Ala	Val	Ser	Ser	Ser	Leu	Gly	
				405					410					415		
Gly	Ile	Gln	Ser	Asn	Ile	Gly	Ile	Ser	Gly	Pro	Pro	Val	Thr	Gln	Gly	
			420				425						430			
Gly	Ser	Met	Gly	Ser	Thr	Gln	Leu	Gly	Gln	Gly	Gly	Ile	Asn	Thr	Asn	
		435					440					445				
Gln	Asn	Met	Ile	Ser	Ser	Leu	Gly	Thr	Thr	Thr	Val	Ser	Ser	Ala	Pro	
		450				455					460					
Ala	Met	Met	Pro	Thr	Pro	Gly	Met	Ala	Gln	Gln	Ala	Gly	Val	Asn	Ser	
465					470					475					480	
Leu	Gly	Val	Thr	Asn	Ser	Ser	Ala	Met	Asn	Met	Pro	Ile	Val	Gln	His	
				485					490					495		
Pro	Asn	Ala	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	
			500					505					510			
Gln	Pro	Pro	Pro	Lys	Tyr	Val	Lys	Ile	Trp	Glu	Gly	Thr	Leu	Ser	Gly	
			515				520					525				
Gln	Arg	Gln	Gly	Gln	Pro	Val	Phe	Ile	Cys	Lys	Leu	Glu	Gly	Tyr	Arg	
					535						540					
Ser	Gly	Thr	Ala	Ser	Glu	Thr	Leu	Ala	Ala	Asp	Trp	Pro	Glu	Thr	Met	
545					550					555					560	
Gln	Ile	Val	Arg	Leu	Ile	Ala	Gln	Glu	His	Met	Asn	Asn	Lys	Gln	Tyr	
				565					570					575		
Val	Gly	Lys	Ala	Asp	Phe	Leu	Val	Phe	Arg	Thr	Leu	Asn	Gln	His	Gly	
			580					585					590			
Phe	Leu	Gly	Gln	Leu	Gln	Glu	Lys	Lys	Leu	Cys	Ala	Val	Ile	Gln	Leu	
		595					600					605				
Pro	Ser	Gln	Thr	Leu	Leu	Leu	Ser	Val	Ser	Asp	Lys	Ala	Gly	Arg	Leu	

610						615						620					
Ile	Gly	Met	Leu	Phe	Pro	Gly	Asp	Met	Val	Val	Phe	Lys	Pro	Gln	Val		
625					630					635					640		
Pro	Thr	Gln	Gln	Pro	Pro	Met	Gln	Gln	Gln	Gln	Leu	Gln	Gln	Gln	Gln		
				645					650						655		
Asn	Gln	Leu	Gln	Gln	Gln	Asn	Gln	Leu	His	Gln	Gln	His	Gln	Leu	Gln		
			660					665					670				
Pro	Gln	Asn	Gln	Leu	Gln	Gln	Gln	His	Gln	Leu	Gln	Gln	Gln	Leu	Gln		
		675					680					685					
Gln	Gln	Gln	Leu	Gln	Gln	His	Met	Gln	Leu	Gln	Thr	Gln	Gly	Leu	Pro		
690					695						700						
Leu	Gln	Gln	Gln	Gln	Ser	Gln	Gly	His	Pro	Leu	Gln	Gln	Gln	Gln	Met		
705					710					715					720		
Gln	Gln	Met	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Ile	Gln	Gln	Met	Gln		
				725					730						735		
Gln	Gln	Gln	Gln	Met	Gln	Gln	Met	Gln	Gln	Gln	Gln	Gln	Gln	Pro	Gln		
			740				745						750				
Gln	Leu	Gln	Gln	Gln	Gln	Gln	Pro	Gln	Met	Val	Gly	Thr	Gly	Met	Gly		
	755					760						765					
Gln	Gln	Gln	Pro	Gln	Met	Val	Gly	Thr	Gly	Met	Gly	Gln	Gln	Gln	Pro		
770						775						780					
Gln	Met	Val	Gly	Ala	Gly	Met	Gly	Gln	Gln	Tyr	Met	Gln	Gly	His	Gly		
785					790					795					800		
Arg	Thr	Val	Gln	Gln	Met	Met	Gln	Gly	Lys	Met	Ala	Pro	Gln	Gly	Pro		
				805					810						815		
Gly	Ser	Met	Pro	Gly	Ala	Gly	Ser	Met	Pro	Gly	Gly	Gly	Tyr	Leu	Ser		
			820					825					830				